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10/053,545	01/24/2002	Satoshi Kumaki	57454-334	3322

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EXAMINER	
DINH, NGOC V	

ART UNIT	PAPER NUMBER
2187	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/053,545	KUMAKI ET AL.	
	Examiner	Art Unit	
	NGOC V DINH	2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to Amendment filed 02/05/04 in which claims 1-9 are amended.

With respect to claims 5, 8, The Applicant argued that "to establish prima facie obviousness to a claimed invention, all the claim limitations must be taught or suggested by the prior art.

The Examiner respectfully submits that applicant's position is misplaced. The obviousness does not have to be taught or suggested by the prior art. For the one with Skill level in the Art: "[the reference] must be read not in isolation, but for what it fairly teaches in combination with the prior art as a whole". In re Merck & Co., Inc., 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986). Not only the specific teachings of a reference but also reasonable inferences which the artisan would have logically drawn therefrom may be properly evaluated in formulating a rejection. In re Preda, 401 F.2d 825, 159 USPQ 342 (CCPA 1968) and In re Shepard, 319 F.2d 194, 138 USPQ 148 (CCPA 1963). Skill in the art is presumed. In re Sovish, 769 F.2d 738, 226 USPQ 771 (Fed. Cir. 1985). Furthermore, artisans must be presumed to know something about the art apart from what the references disclose. In re Jacoby, 309 F.2d 513, 135 USPQ 317 (CCPA 1962). The conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference. In re Bozek, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969). Every reference relies to some extent on knowledge of persons skilled in the art to complement that which is disclosed therein. In re Bode, 550 F.2d 656, 193 USPQ 12 (CCPA 1977).

For Motivation: "In spun, it is off the mark for litigants to argue, as many do, that an invention cannot be held to have been obvious unless a suggestion to combine prior art teachings is found in a specific reference". In re Oetiker, 24 USPQ 2d 14.43 (Fed. Cir. 1992).

"While there must be some teaching, reason suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited

references or prior art specifically suggest making the combination". In re Nilssen, 851 F.2d 1401, 1403, 7 USPQ 2d 1500, 1502 (Fed. Cir. 1988).

"Such suggestion or motivation to combine prior art teachings can derive solely from the existence of a teaching, which one of ordinary skill in the art would be presumed to know, and the use of that teaching to solve the same [or] similar problem which it addresses". In re Wood, 599 F.2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979).

The test for obviousness is not whether the features of the reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the references make obvious to one of ordinary skill in the art. In re Bozek, 163 USI'Q 545, (CCPA 1969); In re Richman 265 USPQ 509, (CCPA 1970); In re Beckum, 169 USPQ 47 (CCPA 1971); IN re Sneed, 710 F.2d 1544, 218 USPQ 385.

See also In Re Larson, 52 CCPA 930. 340 F.2d 695, 144 USPQ 347 and In Re Tomoyuki Kohno, 391, F.2d 959; 55 CCPA 998; 157 USPQ (BNA) 275.

Therefore, The ease in power consumption provides sufficient suggestion and motivation to one having ordinary skill in the art to be such logical adding the variable length decoder taught by Takahashi and Igarashi in Shin system.

Applicant's previous arguments are moot with regard to claims 1-4, 6-7, 9-12 in view of the new rejection.

INFORMATION DISCLOSURE STATEMENT

The Applicant's submission of the supplemental IDS (Mitsubishi Semiconductor data Book 1997 Memory SRAM) filed 03/17/04 explaining relevance of the reference to the present invention have been considered. As required by **M.P.E.P. 609 C(2)**, a copy of the PTOL-1449 is attached to the instant office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application

by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-4, 6-7, 10-12 are rejected under 35 U.S.C.102 (e) as being anticipated by Shin PN 6,442,077.

2.As per claims 1, 4:

As per claim 1, Shin teaches a data processor comprising: a random access memory; a processing unit carrying out data processing while accessing said random access memory; a conversion unit for converting data so that the number of bits having a predetermined value out of said data is at least a predetermined number for output to said random access memory when said processing unit writes said data into said random access memory [fig. 4-8; abstract; col. 1, lines 60-65; col. 2, lines 23-60].

As per claim 4, Shin teaches a first retain circuit [420, fig. 4] storing previous data output by said processing unit; and a subtracter [comparison unit, 411, fig. 6; e.g., "compares the write data when the number of the logic "low' bits is greater than.., is equal or smaller than", col. 5, lines 60-65; col. 8, lines 25-65] taking a difference between the previous data stored in said retain circuit and current data output by said processing unit when said processing unit writes data into said random access memory [see the entire claim section, col. 8-10]

3. As per claims 2-3:

As per claim 2, Shin teaches a detection circuit [comparison unit 411, fig. 6] for detecting, when said processing unit writes data into said random access memory, whether the number of bits having a first value out of said data is at least the number of bits having a second value differing from said first value to set a flag [col. 5, lines 60-65; col. 6, lines 25-65]; a conversion unit [40, fig. 4] includes a first inversion circuit [410, fig. 4] inverting said data for output, and a first select circuit [414, fig 5] responsive to the flag set by said detection circuit to selectively provide said data and said inverted data output from said first inversion circuit to said random access memory [col. 4, line 59 to col. 5, line 20; col. 5, lines 35-65];

As per claim 3, Shin teaches a second inversion circuit [440, fig. 4] inverting data output from said random access memory for output, and a second select circuit [442, fig. 8] responsive to flag to selectively provide data output from random access

memory and inverted data output from second inversion circuit to processing circuit when processing circuit reads out data from random access memory [col. 4, line 59 to col. 5, line 30; col. 6, lines 14-65].

4. As per claims 6-7:

Shin teaches:

As per claim 6, a first detection circuit detecting a data write timing of a predetermined period including the write timing of the first data out of the data write timing into said random access memory by said processing unit; and a first selector for selecting data output from said processing unit at the timing detected by said first detection circuit for output, and selecting difference data output from said subtracter at a timing other than the timing detected by said first detection circuit for output [col. 5, line 60 to col. 6, line 55; col. 7, lines 9-35].

As per claim 7, a second retain circuit [430, fig.4] for storing previous data output to said processing unit; and an adder [e.g., comparison unit, 411, fig. 6; e.g., "compares the write data when the number of the logic "low' bits is greater than.., is equal or smaller than", col. 5, lines 60-65; col. 8, lines 25-65] adding difference data output from said random access memory and said previous data stored in said second retain circuit [col. 4, line 60 to col. 5, line 35; col. 5, lines 45-65].

5. As per claim 10-12:

Claims 10-12 basically are the operating steps that are carried out by the corresponding elements in claims 1-9. Accordingly, claims 10-12 are rejected for the same reasons as set forth for claims 1-9.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 8 are rejected under 35 U.S.C 103(a) as being unpatentable over Shin, in view of Takahashi et al PN 6,005,623, and further in view of Igarashi et al PGPUB 20020090142.

6. As per claims 5, 8:

Shin teaches the claimed limitations as noted above.

Shin does not teach a variable-length coder applying variable-length coding on difference data output from said subtracter for output to said random access memory, and a variable-length decoder applying variable-length decoding on variable-length coded difference data output from said random access memory to output the decoded data to said adder.

Takahashi teaches variable length coder [85, fig. 1B] applying variable-length coding on difference data output from said subtracter [20, fig. 2C; col. 8, lines 20-30] for output to said random access memory [78, fig. 2A], and a variable-length decoder [11, fig. 2B] applying variable-length decoding on variable-length coded difference data output from said random access memory to output the decoded data to said adder [13', fig. 2B]; [col. 2, lines 26-50; col. 8, lines 10-20; col. 23, lines 21-45].

Igarashi teaches variable length code encoder to minimize power consumption [abstract; summary of invention].

It would have been obvious to one having ordinary skill in the art at the time the invention was to include the coder/decoder variable length taught by Takahashi and Igarashi into Shin's data processor in order to reduce number of cycles required for acquisition of the coding/decoding processing operation (without prolonging the total processing time), therefore minimize power consumption of the system [Igarashi, summary of invention].

Allowable Subject Matter

7. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) US 2003/0086302 discloses Data write/read control method reducing power consumed.

b) Lin et al PN 6,304,482 discloses apparartus fo reducing power consumption without toggling logic bits.

c) Cohen PN 6,633,951 discloses reducing power consumption in a DRAM for write operation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc Dinh whose telephone number is (703) 305-3023. The examiner can normally be reached on Monday-Friday 8:30 AM-5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A. Sparks, can be reached on (703) 308-1756. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

NGOC DINH
Patent Examiner
ART UNIT 2187
April 29, 2004

DONALD SPARKS
Supervisory Patent Examiner
Technology Center 2100

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BEFORE THE OFFICE OF ENROLLMENT AND DISCIPLINE
UNITED STATE PATENT AND TRADEMARK OFFICE

LIMITED RECOGNITION UNDER 37 CFR § 10.9(b)

Tomoki Tanida is hereby given limited recognition under 37 CFR § 10.9(b), as an employee of the law firm of McDermott, Will & Emery, to prepare and prosecute patent applications wherein the patent applicant is a client of the law firm of McDermott, Will & Emery, and a registered practitioner, who is a member of the law firm of McDermott, Will & Emery, is the practitioner of record in the applications. This limited recognition shall expire on the date appearing below, or when whichever of the following events first occurs prior to the date appearing below: (i) Tomoki Tanida ceases to lawfully reside in the United States, (ii) Tomoki Tanida's employment with the law firm of McDermott, Will & Emery, ceases or is terminated, or (iii) Tomoki Tanida ceases to remain or reside in the United States on an H-1B visa.

This document constitutes proof of such limited recognition. The original of this document is on file in the Office of Enrollment and Discipline of the U.S. Patent and Trademark Office.

Expires: July 24, 2004

Harry I. Moatz
Director of Enrollment and Discipline